

REMARKS

Reconsideration of the application in view of the following remarks is respectfully requested.

Status of the Claims

Claims 1, 5-7, 9, 11, 12, 16, 37-39 and 41 were pending in the application.

Claims 39 and 41 are withdrawn.

Claims 1, 5-7, 9, 11, 12, 16, 37 and 38 stand rejected.

No new matter is added.

Rejections Under 35 U.S.C. § 112

Claims 1, 5-7, 9, 11-12, 16 and 37-38 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The Examiner states that the Specification does not enable one of ordinary skill in the art to make or use a magnetically biasing means comprising one or more magnets each of which is positioned so as to urge both axially floating stationary seal face members towards said rotary seal face member.

It is respectfully submitted that the Specification describes a mechanical seal with a magnetically biasing means comprising one or more magnets each of which is positioned so as to urge both axially floating stationary seal face members towards the rotary seal face member. Thus, a person or skill in the art would be enabled to make and use the invention as claimed. For example, the Specification describes an embodiment of a mechanical seal in which inboard 80 and outboard stationary seal face assemblies are identical and include stationary seal face holders 82 made of steel. The bar magnets 84 attract the seal face members toward the rotary seal face member to achieve interface pressure between the seal faces 80, 87 and 81, 87. See Specification, page 14, line 30 to page 15, line 10 and Fig. 6A.

Accordingly, it is respectfully submitted that the Specification would enable a person of ordinary skill to make and use a mechanical seal in which a mechanically biasing means includes one or more magnets, each of which is positioned so as to attract both axially floating stationary seal face members. Thus, the Specification enables a person of ordinary skill to also make and use a

mechanical seal in which a mechanically biasing means includes one or more magnets each of which is positioned so as to *urge* both axially floating stationary seal face members, where the word “urge” is defined as: to force or drive forward or onward; impel.¹ Thus, the scope of claim 1 includes the embodiment described in the Specification and discussed above in which each magnet attracts, or impels, both axially floating stationary seal face members toward the rotary seal face member.

Reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 112, first paragraph, is respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 1, 5-7, 9, 11-12, 16 and 37-38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,379,443 to Park et al. (“Park”) in view of U.S. Patent No. 6,805,358 to Dawson et al. (“Dawson”).

Independent claim 1 of the present application recites first and second axially floating stationary seal face members disposed on opposite sides of a rotary seal face member and “means for magnetically biasing said floating seal face members towards said rotary seal face member, said axially floating seal face members and said biasing means being rotationally fixed relative to each other” and “wherein said magnetically biasing means comprises one or more magnets each of which is positioned so as to urge both said axially floating stationary seal face members towards said rotary seal face member.” Because the stationary seal face members on either side of the rotary seal face member are axially floating and urged toward the rotary seal face member, the magnetically biasing means is able to adjust and maintain pressure between the axially floating stationary seal face members and the rotary seal face member in the case that any misalignment occurs.

It is respectfully submitted that neither Park nor Dawson teach or suggest a magnetically biasing means that is rotationally fixed relative to axially floating seal face members and positioned to urge both axially floating stationary seal face members towards the rotary seal face member. Nor would it be obvious to a person of ordinary skill in the art to combine Park and Dawson to include a

¹ The American Heritage Dictionary of the English Language, Houghton Mifflin Company, Third Edition, 1996. See attached.

magnetically biasing means including these features. In contrast, Park describes a seal with a spring 58 disposed at one end that presses a ring 46 of a stator, a ring 30 of a rotor and a thrust plate 54 of the stator together. The spring 58 of Park is not a magnetically biasing means nor is it disposed so as to urge axially floating stationary seal face members toward a rotary seal face member. With respect to Dawson, that reference describes a magnetic seal with a stator 10 including magnets 61 disposed therein and a rotor 50 made of ferromagnetic steel that is magnetically forced toward the stator 10 to maintain a seal therebetween. Dawson does not disclose a magnetically biasing means that biases axially floating seal face members toward a rotary seal face and is rotationally fixed relative to the axially floating seal face members. Instead, in the embodiments described in Dawson, the magnets disposed in one of the stator and the rotor bias the other of the stator and rotor toward the magnets. Thus, in each embodiment described in Dawson the magnets bias an element which rotates with respect thereto. There would be no reason in view of any combination of Park and Dawson for a person of ordinary skill in the art to make a seal in which a means for magnetically biasing floating seal face members is rotationally fixed relative to the floating seal face members, as recited in claim 1. Nor would there be any reason in view of any combination of Park and Dawson for a person of ordinary skill in the art to make a seal in which each magnet of a magnetically biasing means is positioned to urge both axially floating stationary seal face members towards a rotary seal face member.

For the foregoing reasons, it is respectfully submitted that any combination of Park and Dawson could not render claim 1 or any of its dependent claims 5-7, 9, 11-12, 16 and 37-38 obvious.

CONCLUSION

In view of the foregoing, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

The Examiner is respectfully requested to contact the undersigned at the telephone number indicated below if the Examiner believes any issue can be resolved through either a Supplemental Response or an Examiner's Amendment.

It is believed that all appropriate fees are included with these submissions. Should the U.S. Patent and Trademark Office determine that additional fees are owed or that any refund is owed for this application, the Commissioner is hereby authorized and requested to charge the required fee(s) and/or credit the refund(s) owed to our Deposit Account No. 04-0100.

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Respectfully submitted,

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Attachment – Definition from American Heritage Dictionary

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